0325.00488
CD01066

CLAIMS

Sub A1

~~1. A method of generating a file suitable for programming a programmable logic device, the method comprising the steps of:~~

~~(A) generating a programming item from a plurality of parameters that define a program for said programmable logic device;~~

~~(B) compressing said programming item to present a compressed item;~~

~~(C) storing said programming item in a programming field of said file in response to generating; and~~

~~(D) storing said compressed item in a non-programming field of said file in response to compressing.~~

~~2. The method according to claim 1, further comprising the step of storing at least one of said parameters in a second non-programming field of said file.~~

~~3. The method according to claim 1, further comprising the step of generating a dictionary for compressing prior to compressing said programming item.~~

4. The method according to claim 3, wherein said dictionary is generated independently of said compressing step.

5. The method according to claim 4, wherein said compressing is a Huffman encoding and said dictionary is a Huffman tree.

6. The method according to claim 1, further comprising the step of encoding said compressed item from a binary representation to a symbol representation in response to compressing.

7. The method according to claim 6, further comprising the step of mapping said symbol representation to a character representation in response to encoding.

8. The method according to claim 1, further comprising the steps of:

generating an error detection item; and

~~storing said error detection item in a second non-programming field of said file.~~

~~9. The method according to claim 8, further comprising the steps of:~~

~~extracting said error detection item from said file;~~

~~extracting said compressed item from said file;~~

~~decompressing said compressed item to present a backup programming item; and~~

~~validating said backup programming item with said error detection item.~~

~~10. The method according to claim 1, wherein said steps (A) through (D) are stored in a storage medium as a computer program that is readable and executable by a computer to generate said file.~~

Claims 11-20 OK for 714/725

11. A method of repairing a file suitable for programming a programmable logic device, the method comprising the steps of:

~~(A) extracting an error detection item from a non-programmable field of said file;~~

~~(B) extracting a compressed item from a second non-programmable field of said file;~~

~~(C) decompressing said compressed item to produce a backup programming item; and~~

~~(D) validating said backup programming item with said error detection item.~~

~~12. The method according to claim 11, further comprising the steps of:~~

~~extracting a programming item from a programmable field of said file; and~~

~~validating said programming item with said error detection item.~~

~~13. The method according to claim 12, further comprising the step of replacing said programming item with said backup programming item in response to validating said backup programming item.~~

~~14. The method according to claim 11, further comprising the step of generating a dictionary for decompressing prior to decompressing said compressed item.~~

~~15. The method according to claim 14, wherein said dictionary is generated independently of said decompressing step.~~

~~16. The method according to claim 15, wherein said decompressing is a Huffman decoding and said dictionary is a Huffman tree.~~

~~17. The method according to claim 11, further comprising the step of mapping said compressed item from a character representation to a symbol representation in response to extracting said compressed item.~~

~~18. The method according to claim 17, further comprising the step of decoding said compressed item from said symbol representation to a binary representation in response to mapping.~~

19. The method according to claim 11, wherein said steps (A) through (D) are stored in a storage medium as a computer program that is readable and executable by a computer to repair said file.

20. An apparatus comprising:

means for extracting an error detection item from a non-programmable field of a file suitable for programming a programmable logic device;

means for extracting a compressed item from a second non-programmable field of said file;

means for decompressing said compressed item to produce a backup programming item; and

means for validating said backup programming item with said error detection item.